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DOCKET NO.: H0498.70114US01/TJO

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Enoch KIM et al.  
Serial No: 10/677,103  
Confirmation. No.: 4302  
Filed: October 1, 2003  
For: MOLDED WAVEGUIDES  
Examiner: Not Yet Assigned  
Art Unit: 1732

**CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)**

The undersigned hereby certifies that this document is being placed in the United States mail with first-class postage attached, addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the 1<sup>st</sup> day of June, 2004.

  
Signature

Commissioner For Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

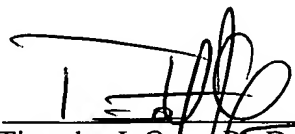
Transmitted herewith are the following documents:

- ☒ Information Disclosure Statement
- ☒ PTO Form 1449 with cited references
- ☒ Return Receipt Postcard

If the enclosed papers are considered incomplete, the Mail Room and/or the Application Branch is respectfully requested to contact the undersigned at (617) 720-3500, Boston, Massachusetts.

A check is not enclosed. If a fee is required, the Commissioner is hereby authorized to charge Deposit Account No. 23/2825. A duplicate of this sheet is enclosed.

Respectfully submitted,  
*Enoch KIM et al., Applicant*

By:   
Timothy J. Oyer, Ph.D., Reg. No.: 36,628  
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Date: June 1, 2004

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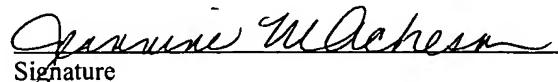
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Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**STATEMENT FILED PURSUANT TO THE DUTY OF  
DISCLOSURE UNDER 37 CFR §§1.56, 1.97 AND 1.98**

Sir:

Pursuant to the duty of disclosure under 37 C.F.R. §§1.56, 1.97 and 1.98, the Applicants request consideration of this Information Disclosure Statement.

**PART I: Compliance with 37 C.F.R. §1.97**

A. This Information Disclosure Statement has been filed before the mailing date of a first Office Action on the merits in the above-identified case. No fee or certification is required.

**PART II: Information Cited**

A. The Applicants hereby make of record in the above-identified application the information listed on the attached form PTO-1449 (modified). The order of presentation of the references should not be construed as an indication of the importance of the references.

PART III: Remarks

Documents cited anywhere in the Information Disclosure Statement are enclosed unless otherwise indicated. It is respectfully requested that:

1. The Examiner consider completely the cited information, along with any other information, in reaching a determination concerning the patentability of the present claims;
2. The enclosed form PTO-1449 be signed by the Examiner to evidence that the cited information has been fully considered by the Patent and Trademark Office during the examination of this application;
3. The citations for the information be printed on any patent which issues from this application.

By submitting this Information Disclosure Statement, the Applicants make no representation that a search has been performed, of the extent of any search performed, or that more relevant information does not exist.

By submitting this Information Disclosure Statement, the Applicants make no representation that the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. §1.56(b).

By submitting this Information Disclosure Statement, the Applicants make no representation that the information cited in the Statement is, or is considered to be, in fact, prior art as defined by 35 U.S.C. §102.

Notwithstanding any statements by the Applicants, the Examiner is urged to form his own conclusion regarding the relevance of the cited information.

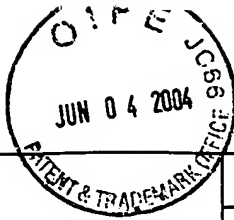
An early and favorable action is hereby requested.

Respectfully submitted,  
Enoch KIM et al., *Applicants*

By: 

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Docket No. H0498.70114US01  
Date: June 1, 2004  
**XNDDX**



## FORM PTO-1449(Modified)

ATTY. DOCKET NO. H0498.70114US01

SERIAL NO. 10/677,103

LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S  
INFORMATION DISCLOSURE STATEMENT

APPLICANT Enoch Kim et al.

FILING DATE 10/01/2003

GROUP ART UNIT: 1732

## U.S. PATENT DOCUMENTS

Exam Init	Ref Des	Document No.	Date	Name	Class	Sub Class	FILING DATE If Appropriate
	*	3,873,359	03/25/75	Lando			
	*	3,873,360	03/25/75	Lando			
	*	3,900,614	08/19/75	Lando			
	*	4,098,922	07/04/78	Dinella et al.			
	*	4,100,037	07/11/78	Baron et al.			
	*	4,192,764	07/11/80	Madsen			
	*	4,258,001	03/24/81	Pierce et al.			
	*	4,322,457	03/30/82	Baron et al.			
	*	4,472,458	09/18/84	Sirinyan et al.			
	*	4,508,755	04/02/85	Reintjes et al.			
	*	4,555,414	11/26/85	Hoover et al.			
	*	4,637,904	01/87	Rounds			
	*	4,690,715	09/01/87	Allara et al.			
	*	4,710,401	12/87	Warren Jr. et al.			
	*	4,728,591	03/01/88	Clark et al.			
	*	4,802,951	02/07/89	Clark et al.			
	*	4,869,778	09/89	Cote			
	*	4,959,252	09/25/90	Bonnebat et al.			
	*	5,073,495	12/17/91	Anderson			
	*	5,079,600	01/07/92	Schnur et al.			
	*	5,087,510	02/11/92	Tokas et al.			
	*	5,141,785	08/25/92	Yoshinada et al.			
	*	5,170,461	12/08/92	Yoon et al.			
	*	5,227,474	07/13/93	Johnson			
	*	5,259,926	11/09/93	Kuwabara et al.			
	*	5,345,869	09/13/94	Treverton et al.			
	*	5,385,116	01/31/95	Hattori et al.			
	*	5,439,829	08/08/95	Anderson et al.			
	*	5,471,455	11/28/95	Jabr			
	*	5,484,324	01/16/96	Okabayashi et al.			
	*	5,512,131	04/30/96	Kumar et al.			
	*	5,534,101	07/09/96	Keyworth et al.			
	*	5,620,850	04/15/97	Bamdad et al.			
	*	5,976,826	11/02/99	Singhvi et al.			

\* a copy of this reference is not provided as it was previously cited by or submitted to the office in a prior application, Serial No. \_\_\_\_\_, filed \_\_\_\_\_, and relied upon for an earlier filing date under 35 U.S.C. 120 (continuation, continuation-in-part, and divisional applications).

Examiner

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered.



FORM PTO-1449(Modified)  LIST OF PATENTS AND PUBLICATIONS FOR APPLICANTS INFORMATION DISCLOSURE STATEMENT	ATTY. DOCKET NO. H0498.70114US01	SERIAL NO. 10/677,103
	APPLICANTS: Enoch Kim et al.	
	FILING DATE 10/01/2003	GROUP ART UNIT: 1732

#### U.S. PATENT DOCUMENTS

Exam Init	Ref Des	Document No.	Date	Name	Class	Sub Class	FILING DATE If Appropriate
	*	5,989,835	11/23/99	Dunlay et al.			
	*	6,103,479	08/15/00	Taylor			
		6,355,198	03/12/02	Kim et al.			
		6,660,192	12/09/03	Kim et al.			
		2002-0066978	06/06/02	Kim et al.			

#### FOREIGN PATENT DOCUMENTS

		Country & Doc. No. (11)	Pub. Date (43)		Class	Sub Class	Translation Yes	No
	*	EP 0112721	07/04/84	Comtech Research Unit Limited				
	*	EP 0672765 A1	09/20/95	Studiengesellschaft Kohle mbH				
	*	JP 07237229	02/25/94	Canon Inc.				
	*	JP 2165933	06/26/90	Motoyuki				
	*	WO 96/29629	09/26/96	Whitesides et al.				
	*	WO 97/07429	02/27/97	Clem et al.				
	*	WO 97/33737	09/18/97	Enoch Kim et al.				

#### OTHER ART

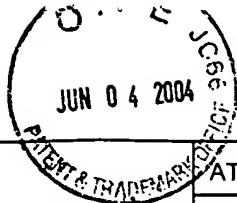
(Including Author, Title, Date, Pertinent Pages, Publication, Etc.)

	*	P.M. St. John et al., "Microcontact printing and pattern transfer using trichlorosilanes on oxide substrates," <i>Appl. Phys. Lett.</i> , Vol. 68, No. 7, pp. 1022-24, February 12, 1996.
	*	E. Kim et al., "Two-and Three-Dimensional Crystallization of Polymeric Microspheres by Micromolding in Capillaries," <i>Advanced Materials</i> , Vol. 8, No. 3, pp. 245-47, March 1, 1996.
	*	E. Kim et al., "Combining Patterned Self-Assembled Monolayers of Alkanethiolates on Gold with Anisotropic Etching of Silicon to Generate Controlled Surface Morphologies," <i>J. Electrochem. Soc.</i> , Vol. 142, No. 2, pp. 628-33, February 1995.
	*	T.P. Moffat et al., "Patterned Metal Electrodeposition Using an Alkanethiolate Mask," <i>J. Electrochem. Soc.</i> , Vol. 142, No. 11, November 1995.
	*	E.A. Dobisz et al., "Self-Assembled Monolayer Films for Nanofabrication," <i>Mat. Res. Soc. Symp. Proc.</i> , Vol. 380, 1995.
	*	J.K. Schoer et al., "Scanning Probe Lithography," <i>Langmuir</i> , Vol. 10, No. 3, pp. 617-18, 1994.
	*	H.C. Haverkorn van Rijsewijk, et al., "Manufacture of LaserVision video discs by a photopolymerization process," <i>Philips Technical Review</i> , Vol. 40, No. 10 (1982), pp. 287-97.
	*	M. Emmelius et al., "Materials for Optical Data Storage," <i>Ignew. Chem. Int. Ed. Engl.</i> 28, Vol. 28, No. 11, (1989), pp. 1445-1600.
	*	F. Lenzman et al., "Thin-Film Micropatterning Using Polymer Microspheres," <i>Chem. Mater.</i> , Vol. 6, (1994), pp. 156-59.
	*	S. Chou et al., "Imprint of sub-25 nm vias and trenches in polymers," <i>Appl. Phys. Lett.</i> 67 (21), 1995, pp. 3114-6.
	*	C.D. Dushkin et al., "Colored Multilayers from Transparent Submicrometer Spheres," <i>Langmuir</i> , Vol. 9 (1993), pp. 3695-3701.
	*	S. Hayashi et al., "Imaging by Polystyrene Latex Particles," <i>Journal of Colloid &amp; Interface Science</i> , Vol. 144, No. 2 (1991), pp. 538-47.

\* a copy of this reference is not provided as it was previously cited by or submitted to the office in a prior application, Serial No. \_\_\_\_\_, filed \_\_\_\_\_, and relied upon for an earlier filing date under 35 U.S.C. 120 (continuation, continuation-in-part, and divisional applications).

Examiner	DATE CONSIDERED
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OTHER ART

(Including Author, Title, Date, Pertinent Pages, Publication, Etc.)

	*	Y. Xia et al., "Microcontact Printing of Octadecylsiloxane on the Surface of Silicon Dioxide and its Application in Microfabrication," <i>J. Am. Chem. Soc.</i> , Vol. 117, No. 37 (1995), pp. 9576-9577.
	*	J.F. Dijkman, "Analysis of the injection-molding process," <i>Philips Tech. Rev.</i> 44, No. 7, (1989), pp. 212-217.
	*	J. Shaw, "Capillary fill encapsulation of ISFETs," <i>Sensors and Actuators A</i> , 37-38, (1993), pp. 74-76.
	*	J. Jacobs et al., "Combinatorial chemistry - applications of light-directed chemical synthesis," <i>Tibtech</i> , Vol. 12 (1994), pp. 19-26.
	*	S. Sundberg et al., "Spatially-Addressable Immobilization of Macromolecules on Solid Supports," <i>J. Am. Chem. Soc.</i> , Vol. 117 (1995), pp. 12050-12057.
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	*	S. Potochnik et al., "Selective Copper Chemical Vapor Deposition Using Pd-Activated Organosilane Films," <i>Langmuir</i> , Vol. 11, No. 6, (1995), pp. 1841-1845.
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	*	G. Lazarov et al., "Formation of Two-dimensional Structures from Colloidal Particles on Fluorinated Oil Substrate," <i>J. Chem. Soc. Faraday Trans. 90</i> (14), (1994), pp. 2077-2083.
	*	P. Hoyer et al., "Small quantum-sized CdS particles assembled to form a regularly nanostructured porous film," <i>Appl. Phys. Lett.</i> 66 (20) (1995), pp. 2700-02.
	*	H. Bonnemant et al., "Preparation and Catalytic Properties of NR+4-Stabilized Palladium Colloids," <i>Applied Organometallic Chemistry</i> , Vol. 8 (1994), pp. 361-378.
	*	K. Nagayami, "Fabrication of Two-Dimensional Colloidal Arrays," <i>Phase Transitions</i> , Vol. 45, (1993), pp. 185-203.
	*	M. Reetz et al., "Size-Selective Synthesis of Nanostructured Transition Metal Clusters," <i>J. Am. Chem. Soc.</i> 116 (1994), pp. 7401-7402.
	*	M. Reetz et al., "Visualization of Surfactants on Nanostructured Palladium Clusters by a Combination of STM and High-Resolution TEM," <i>Science</i> , Vol. 267 (1995), pp. 367-369.
	*	F. Meldrum et al., "Formation of Thin Films of Platinum, Palladium, and Mixed Platinum: Palladium Nano-crystallites by the Langmuir Monolayer Technique," <i>Chem. Mater.</i> 7 (1995), pp. 1112-1116.
	*	T. Vargo et al., "Adhesive Electroless Metallization of Fluoropolymeric Substrates," <i>Science</i> , Vol. 262 (1993), pp. 1711-1712.

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**OTHER ART**

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	*	J. Calvert et al., "Deep ultraviolet patterning of monolayer films for high resolution lithography," <i>J. Vac. Sci. Technol. B9</i> (6) (1991), pp. 3447-3450.
		J. Li et al., "Copper-Based Metallization for ULSI Applications," <i>MRS Bulletin</i> , (1993), pp. 18-21.
	*	J. Chou et al., "Electroless Cu for VLSI", <i>MRS Bulletin</i> (1993), pp. 31-37.
	*	A. van der Putten et al., "Electrochemistry of Colloidal Palladium," <i>J. Electrochem. Soc.</i> , Vol. 139, No. 12 (1992) pp. 3475-3480.
	*	C. Ting et al., "Selective Electroless Metal Deposition of Integrated Circuit Fabrication," <i>J. Electrochem. Soc.</i> , Vol. 136, No. 2, (1989), pp. 456-462.
	*	R. Jackson, "PD+2/Poly(acrylic acid) Thin Films as Catalysts for Electroless Copper Deposition: Mechanism of Catalyst Formation," <i>J. Electrochem. Soc.</i> , Vol. 137, No. 1, (1990), pp. 95-101.
	*	A. van der Putten et al., "Anisotropic Deposition of Electroless Nickel," <i>J. Electrochem. Soc.</i> , Vol. 140, No. 8 (1993), pp. 2229-2235.
	*	A. van der Putten, "Controlled Mechanical Adhesion of Electroless Cu Patterns," <i>J. Electrochem. Soc.</i> , Vol. 140 No. 8, (1993), pp. 2376-2378.
	*	R. Jackson, "Initiation of Electroless Copper Plating Using Pd+2/Poly(acrylic acid) Films," <i>J. Electrochem. Soc.</i> (1998), pp. 3172-3173.
	*	C. Mak, "Electroless Copper Deposition on Metals and Metal Silicides," <i>MRS Bulletin</i> , (1994), pp. 55-62.
	*	W. Dressick et al., "Photopatterning and Selective Electroless Metallization of Surface-Attached Ligands," <i>J. Chem. Mater.</i> 5, (1993), pp. 148-150.
	*	S. Nakahara et al., "Microstructure and Mechanical Properties of Electroless Copper Deposits," <i>Annu. Rev. Mater. Sci.</i> 21, (1991), pp. 93-129.
	*	N. Jeon et al., "Patterned Self-Assembled Monolayers Formed by Microcontact Printing Direct Selective Metalization by Chemical Vapor Deposition on Planar and Nonplanar Substrates," <i>Langmuir</i> 11 (1995), pp. 3204-3206.
	*	V. Dubin, "Electroless Ni-P Deposition on Silicon with Pd Activation," <i>J. Electrochem. Soc.</i> , Vol. 139, No. 5, May, 1992, pps. 1289-1294.

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